Principles of Algebra Name/Date Clee / Today

ALL PROBLEMS CAN BE COMPLETED ON THIS WORKSHEET

WS 11B.1 – Multiplying Polynomials

#1-16, Simplify.

1. $(a+5)(a-8)$

$= a^2 - 8a + 5a - 40$ (F O I L)

$= \boxed{a^2 - 3a - 40}$

2. $(h+1)(h-7)$

$= h^2 - 7h + 1h - 7$ (F O I L)

$= \boxed{h^2 - 6h - 7}$

3. $(a+6)(3a-4)$

$= 3a^2 - 4a + 18a - 24$ (F O I L)

$= \boxed{3a^2 + 14a - 24}$

4. $(2m-9)(6+5m)$

$= 12m + 10m^2 - 54 - 45m$ (F O I L)

$= \boxed{10m^2 - 33m - 54}$

5. $(7r-3)(r-5)$

$= 7r^2 - 35r - 3r + 15$ (F O I L)

$= \boxed{7r^2 - 38r + 15}$

6. $(5x-8)(2x-3)$

$= 10x^2 - 15x - 16x + 24$ (F O I L)

$= \boxed{10x^2 - 31x + 24}$

7. $(4y+z)(y-2z)$

$= 4y^2 - 8yz + 1yz - 2z^2$ (F O I L)

$= \boxed{4y^2 - 7yz - 2z^2}$

8. $(2j-3k)(4j+k)$

$= 8j^2 + 2jk - 12jk - 3k^2$ (F O I L)

$= \boxed{8j^2 - 10jk - 3k^2}$

9. $(2a+3b)(4c-5d)$

$= \boxed{8ac - 10ad + 12bc - 15bd}$ (F O I L)

10. $(x+y)^2 = (x+y)(x+y)$

$= x^2 + xy + xy + y^2$ (F O I L)

$= \boxed{x^2 + 2xy + y^2}$

11. $(3x-4)^2 = (3x-4)(3x-4)$

$= 9x^2 - 12x - 12x + 16$ (F O I L)

$= \boxed{9x^2 - 24x + 16}$

12. $(2a-3b)^2 = (2a-3b)(2a-3b)$

$= 4a^2 - 6ab - 6ab + 9b^2$ (F O I L)

$= \boxed{4a^2 - 12ab + 9b^2}$

13. $(2z+3)(z^2+4z-1)$

$= 2z^3 + 8z^2 - 2z + 3z^2 + 12z - 3$

$= \boxed{2z^3 + 11z^2 + 10z - 3}$

14. $(x^2+3x-5)(x+2)$

$= x^3 + 2x^2 + 3x^2 + 6x - 5x - 10$

$= \boxed{x^3 + 5x^2 + x - 10}$

15. $(2y^3+2y-y^2)(2y-3)$

$= 4y^4 - 6y^3 + 4y^2 - 6y - 2y^3 + 3y^2$

$= \boxed{4y^4 - 8y^3 + 7y^2 - 6y}$

16. $(3x^2+5x-2)(x^2-4x+3)$

$= 3x^4 - 12x^3 + 9x^2 + 5x^3 - 20x^2 + 15x - 2x^2 + 8x - 6$

$= \boxed{3x^4 - 7x^3 - 13x^2 + 23x - 6}$